IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121:

1. (currently amended) A method for computing volumetric perfusion in a spatially stationary organ using a computed tomography (CT) imaging system having a field of view, said method comprising:

positioning an area detector such that the area detector encompasses a spatially stationary organ within the field of view of the imaging system for all view angles;

operating the CT imaging system in a cine mode to acquire a plurality of projection data representative of [[the]] tissue dynamics in the spatially stationary organ;

generating reconstructed data of [[the]] contrast dynamics of [the] tissue using the projection data;

temporally filtering respective signals from volume elements of the reconstructed data, the signals from volume elements being representative of the tissue dynamics; and[[,]]

computing the volumetric perfusion in the organ using the temporally filtered signals from volume elements[[ ]].

2. (currently amended) A method in accordance with Claim 1, wherein the filtering step is adapted to reduce noise in [[the]] images to allow a reduction in radiation dose applied during imaging.

3. (currently amended) A method in accordance with Claim 1, wherein the filtering step is adapted to reduce noise.

4. (currently amended) A computed ~~tomographic~~ tomography (CT) imaging system for computing volumetric perfusion in a spatially stationary organ comprising:

a radiation source;

an area detector; and

a computer operationally coupled to said radiation source and said area detector, said computer configured to:

position [[an]] the area detector such that the area detector encompasses [[a]] the spatially stationary organ within a field of view of the imaging system for all view angles;

operate the CT imaging system in a cine mode to acquire a plurality of projection data representative of [[the]] tissue dynamics in the spatially stationary organ;

generate reconstructed data of [[the]] contrast dynamics of [[the]] tissue using the projection data; and

temporally filter respective signals from volume elements of the reconstructed data to reduce noise, the signals from volume elements being representative of the tissue dynamics; and

compute the volumetric perfusion in the organ using the temporally filtered signals from volume elements.

5. (currently amended) A CT imaging system in accordance with Claim 4, wherein the computer filters the reconstructed data to reduce noise in [[the]] images and allows a reduction in radiation dose applied during imaging.

6. (currently amended) A computer readable medium encoded with a program configured to instruct a computer to:

position an area detector such that the area detector encompasses a spatially stationary organ within a field of view of [[the]] a computed tomography (CT) imaging system for all view angles;

operate the CT imaging system in a cine mode to acquire a plurality of projection data representative of [[the]] tissue dynamics in the spatially stationary organ;

generate reconstructions of [[the]] contrast dynamics of [[the]] tissue using the projection data;

temporally filter respective signals from volume elements of the reconstructions to reduce noise, the signals from the volume elements being representative of the tissue dynamics; and[[,]]

compute [[the]] volumetric perfusion in the organ using the temporally filtered signals from the volume elements.

7. (currently amended) A computer readable medium in accordance with Claim 6, further encoded to filter the volume elements to allow a reduction in radiation dose applied during imaging.

8. (currently amended) A method for computing volumetric perfusion in a spatially stationary organ using a computed tomography (CT) imaging system having a field of view, said method comprising:

positioning an area detector such that the area detector encompasses [[a]] the spatially stationary organ within the field of view of the imaging system for all view angles;

operating the CT imaging system in a cine mode to acquire a plurality of processed transmission measurements representative of [[the]] tissue dynamics in the spatially stationary organ;

filtering the processed transmission measurements at each view angle to reduce noise in the measurements, thereby enabling generation of projection data with improved signal-to-noise ratio;

generating reconstructions of [[the]] contrast dynamics of [[the]] tissue using the projection data; and

computing the volumetric perfusion in the organ using the reconstructions representative of the tissue dynamics.

9. (currently amended) A method in accordance with Claim 8, wherein filtering the processed transmission measurements at each view angle reduces noise ~~in the measurements~~ and allows a reduction in [[the]] a radiation dose applied to [[the]] a patient.

10. (currently amended) A computed ~~tomographic~~ tomography (CT) imaging system for computing volumetric perfusion in a spatially stationary organ comprising:

a radiation source;

an area detector; and

a computer operationally coupled to said radiation source and said area detector, said computer configured to:

position [[an]] the area detector such that the area detector encompasses [[a]] the spatially stationary organ within a field of view of the imaging system for all view angles;

operate the CT imaging system in a cine mode to acquire a plurality of processed transmission measurements representative of [[the]] tissue dynamics in the spatially stationary organ;

filter the processed transmission measurements at each view angle to reduce noise ~~in the measurements~~, thereby enabling generation of projections with improved signal-to-noise ratio;

generate reconstructions of [[the]] contrast dynamics of [[the]] tissue using the ~~projection measurements~~ projections; and

compute the volumetric perfusion in the organ using the reconstructions representative of the tissue dynamics.

11. (currently amended) A CT imaging system in accordance with Claim 10, wherein filtering the processed transmission measurements at each view angle to reduce noise ~~in the measurements~~ allows a reduction in [[the]] a radiation dose applied to [[the]] a patient.

12. (currently amended) A method in accordance with Claim 8, further comprising interpolating the plurality of processed transmission measurements to a particular instant in time, thereby enabling generation of reconstructions with improved temporal resolution.

13. (currently amended) A CT imaging system in accordance with Claim 10, further comprising interpolating the plurality of processed transmission measurements to a particular instant in time, thereby enabling generation of reconstructions with improved temporal resolution.

14. (currently amended) A method for computing volumetric perfusion in a spatially stationary organ using a computed tomography (CT) imaging system having a field of view, said method comprising:

positioning an area detector such that the area detector encompasses [[a]] the spatially stationary organ within the field of view of the imaging system for all view angles;

operating the CT imaging system in a cine mode to acquire a plurality of processed transmission measurements representative of [[the]] tissue dynamics in the spatially stationary organ;

interpolating the processed transmission measurements at each view angle to a particular instant in time, thereby enabling generation of time-resolved projection data;

generating reconstructions of [[the]] contrast dynamics of [[the]] tissue using the time-resolved projection data; and[[,]]

computing the volumetric perfusion in the organ using the reconstructions representative of the tissue dynamics.

15. (currently amended) A computed ~~tomographic~~ tomography (CT) imaging system for computing volumetric perfusion in a spatially stationary organ comprising:

a radiation source;

an area detector; and

a computer operationally coupled to said radiation source and said area detector, said computer configured to:

position [[an]] the area detector such that the area detector encompasses [[a]] the spatially stationary organ within a field of view of the imaging system for all view angles;

operate the CT imaging system in a cine mode to acquire a plurality of processed transmission measurements representative of [[the]] tissue dynamics in the spatially stationary organ;

interpolate the processed transmission measurements at each view angle to a particular instant in time, thereby enabling generation of time-resolved projection data;

generate reconstructions of [[the]] contrast dynamics of [[the]] tissue using the time-resolved projection data; and

compute the volumetric perfusion in the organ using the reconstructions representative of the tissue dynamics.